

Oak Street
UNCLASSIFIED

Commonwealth of Massachusetts.



STATE BOARD OF HEALTH.

A GUIDE TO ITS EXHIBIT

AT THE

World's Columbian Exposition,

DEPARTMENT OF HYGIENE AND SANITATION,

ANTHROPOLOGICAL BUILDING.

1893.

State Board of Health of Massachusetts.

HENRY P. WALCOTT, M D , Chairman.

JOSEPH W. HASTINGS, M.D.

GERARD C. TOBEY, Esq.

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Gen. MORRIS SCHAFF.

FRANK W. DRAPER, M D.

ELIJAH U. JONES, M.D.

SAMUEL W. ABBOTT, M.D., Secretary.

JOSEPH P. DAVIS, C E., Consulting Engineer.

FREDERIC P. STEARNS, C.E., Chief Engineer.

CHARLES P. WORCESTER, M.D., Analyst of Food and Drugs.

Prof. CHARLES A. GOESSMANN, Analyst of Milk.

THOMAS M. DROWN, M.D., Chemist, under Water Supply and Sewerage Act.

WILLIAM T. SEDGWICK, Ph.D., Biologist, under Water Supply and Sewerage Act.

ALLEN HAZEN, S.B., Chemist in charge, Lawrence Experiment Station.

GEORGE W. FULLER, S B., Biologist in charge, Lawrence Experiment Station.

Office at 13 Beacon Street, Boston, Mass., U. S. A.

THE EXHIBIT.

Visitors are invited to observe that the exhibit occupies two adjoining courts or pavilions.

In the principal court will be found : —

1. Diagrams and charts, a part of which are in the swing-frames, illustrating the general work of the Board upon LIFE and HEALTH, DISEASES and EPIDEMICS, VITAL STATISTICS, COMPARATIVE MORTALITY, and the INFLUENCE of the DENSITY of POPULATION upon the PUBLIC HEALTH.
2. A model of the LAWRENCE EXPERIMENT STATION, and PHOTOGRAPHS, CHARTS, SANDS, SEWAGES, EFFLUENTS, SECTIONS of FILTERS, a typical EXPERIMENTAL FILTER, APPARATUS and other material illustrating the work of the Lawrence Experiment Station of the State Board of Health of Massachusetts, the first of the kind established in America.
3. THE DEPARTMENT OF FOOD AND DRUG INSPECTION, showing types of injurious or fraudulent adulterations found in Massachusetts, with diagrams illustrating the relative prevalence of adulterations observed since the department was inaugurated, the cost of the service, etc.
4. Some of the practical results of long-continued EXAMINATIONS of the WATER SUPPLIES of MASSACHUSETTS made by the State Board of Health. The large Normal Chlorine map of the State on the east wall may be particularly referred to as entirely novel and unique. Its full meaning and practical importance will be explained by the custodian.
5. Models of Trichinæ, with charts bearing upon Trichinosis in Massachusetts.
6. THE OFFICIAL REPORTS, blanks and other documents of the Board which form a part of its regular and routine work.

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ANNEX.

In the smaller pavilion, or Annex, is a further EXHIBIT, consisting of some of the practical results of the scientific investigations of the Board, etc. : —

1. ADVICE TO CITIES AND TOWNS CONCERNING WATER SUPPLY AND SEWERAGE, with statistics showing the extent and character of this service to the Commonwealth.
2. PHOTOGRAPHS OF SEWAGE FIELDS already in actual operation, with plans of the principal filter beds thus far constructed.
3. Maps and plans of the METROPOLITAN SYSTEM OF SEWERAGE for Boston and its neighboring cities and towns, which was recommended by the Board after careful inquiry and adopted by the Commonwealth with an appropriation of \$5,000,000.
4. Plans of the SAND FILTERS designed by Hiram F. Mills, Esq., C.E., and now approaching completion, for purifying the WATER SUPPLY OF THE CITY OF LAWRENCE, MASS.
5. An Act just passed by the Legislature directing the State Board of Health to INVESTIGATE AND REPORT UPON THE PROBLEM OF METROPOLITAN WATER SUPPLY for Boston and its neighboring cities and towns, and appropriating for the investigation the sum of \$40,000.
6. PHOTOGRAPHS OF THE SEWAGE PRECIPITATION WORKS OF THE CITY OF WORCESTER, which are of interest because the principal example in Massachusetts of sewage disposal by chemical precipitation.

Further information concerning the Exhibit or the work of the Board may be obtained from the custodian, who will also, upon request, grant access to the Reports and other Documents of the Board.

HISTORICAL SKETCH.

THE STATE BOARD OF HEALTH OF MASSACHUSETTS had its origin as early as 1849, but was not established by law until twenty years later. The year 1849 was one of unusual sickness and mortality throughout the State. Typhoid fever, dysentery and scarlet-fever had prevailed to an unusual extent, and, in addition to these, Asiatic cholera had invaded the State and destroyed about twelve hundred of its population.

In that year, by authority of the Legislature, a commission was appointed to report upon the sanitary condition of the State. One of the primary recommendations of this commission advised the establishment of a "general board of health," the functions of which were very clearly stated, and when the board was finally established in 1869, under the title of the State Board of Health and Vital Statistics, it was organized very nearly in accord with the suggestions of the sanitary commission of 1849.

The Board was reorganized, with enlarged powers, in 1886.

POWERS AND DUTIES OF THE BOARD.

The general powers and duties of the Board are presented in the following section of the organic law providing for its establishment : —

The state board of health shall take cognizance of the interests of health and life among the citizens of the Commonwealth. It shall make sanitary investigations and inquiries in respect to the causes of disease, and especially of epidemics and the sources of mortality and the effects of localities, employments, conditions and circumstances, on the public health ; and shall gather such information in respect to those matters as it may deem proper for diffusion among the people. It shall advise the government in regard to the location and other sanitary conditions of any public institutions.

The powers conferred upon the Board by the provisions of this act have been enlarged from time to time, as the health of the population appeared to require. Co-ordinate powers with local boards of health were conferred upon the Board, to be used in time of epidemics, or upon such occasions as might be necessary.

FOOD AND DRUG INSPECTION.

By an act of 1871 the Board was given authority to control the operation of such offensive trades as might become a nuisance to neighboring populations. A statute of 1882 gave to the Board the supervision of food and drug inspection throughout the State. The examination of milk and milk products was to form an important part of the work. The Board appointed analysts and inspectors under this act, and has accomplished a useful work in the protection of the people from harm and fraud from the sale of adulterated food products. The good work done in this direction has been recognized not only by other States but also by the United States government.

From 1882 up to the present time nearly fifty thousand samples of food and drugs have been examined, and about nine hundred prosecutions have been conducted against offenders ; and in many instances harmful and fraudulent forms of adulteration have been entirely suppressed within the borders of the State. (See exhibit in the Main Pavilion.)

PROTECTION OF INLAND WATERS.

By another wise provision of the Legislature, a law was passed in 1886, entitled "An Act to protect the purity of inland waters," by which the State Board of Health was constituted a board of guardians over the water supplies and inland waters of Massachusetts. Under the provisions of this act the Board is authorized to make examinations of the domestic water supplies of the State, and to conduct experiments for determining the best practicable methods of purifying sewage. The authorities of cities, towns, corporations and individuals are required to seek the advice of the Board relative to the best methods of securing pure water supplies and introducing proper systems of sewerage and sewage disposal. (See exhibits in Main Pavilion and in Annex.)

LAWRENCE EXPERIMENT STATION.

For the continuous work required by this act the Board secured the services of the best engineers, chemists and biologists, began a careful examination of all the public water sup-

plies of the State, established an experiment station—the first in America—near the Merrimac River at Lawrence, and has published annual reports upon its work, together with special reports upon the subjects of water supply and sewerage. (See models and exhibit in Main Pavilion.)

METROPOLITAN SEWERAGE SYSTEM.

In addition to this general work the Board was intrusted in 1887 with the duty of devising and reporting a comprehensive plan of sewerage and sewage disposal for the eighteen cities and towns comprising the suburban district north and west of Boston. The report was made to the Legislature in 1889, an appropriation of five million dollars was made by the State, and the system known as the north Metropolitan sewerage system is now approaching completion, substantially upon the plan advised by the Board. (See charts in Annex.)

A METROPOLITAN WATER SUPPLY.

By an act of the present year the Board is also required to investigate the question of a general water supply for the Metropolitan district, comprising Boston and its suburbs to a distance of ten miles, and to report upon the same in January, 1895. This district contains about one million inhabitants.

OTHER SPECIAL INVESTIGATIONS.

The Board has also made many other investigations upon subjects pertaining to the public health, some of which were authorized by special legislative resolves, and others were taken up as independent lines of inquiry. Among these were the sale and use of opium, arsenic in wall-papers and fabrics, natural and artificial ice supplies, oleomargarine, the establishment of abattoirs, intemperance, school hygiene, lead poisoning, the growth of children, the management and control of infectious diseases, sewage disposal, water filtration, the relation of rags to public health, disinfection, malarial fever, vital statistics, etc.

The average annual appropriations for carrying out the work of the Board in its different lines for the past six years have been about forty-nine thousand dollars (\$49,000).

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